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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,174	12/31/2003	Lukas Trosman	24GA127099	5555
33727	7590	01/09/2008		
HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 8910 RESTON, VA 20195			EXAMINER MONDT, JOHANNES P	
			ART UNIT	PAPER NUMBER
			3663	
			MAIL DATE	DELIVERY MODE
			01/09/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/748,174	Applicant(s) TROSMAN ET AL.	
	Examiner Johannes P. Mondt	Art Unit 3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 24,26-29 and 31-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 24, 26-29 and 31-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                            |                                                                                         |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                           | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

**DETAILED ACTION**

N.B.: Another examiner (Johannes Mondt) has assumed responsibility for examining the application.

In view of the Appeal Brief filed on 10/22/2007, PROSECUTION IS HEREBY REOPENED. New Grounds of Rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 C.F.R. 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

Jack Keith

  
JACK KEITH  
SUPERVISORY PATENT EXAMINER

### ***Status of the Claims***

In the Appeal Brief filed on 10/22/2007 the grounds for rejection of claims 24 and 26-29 under 35 U.S.C. 103(a) as being unpatentable over Oriti et al (6,735,267 B2), in view of Ueda et al (5,068,082) and Johansson et al (5,229,068), and of claims 31-33 under 35 U.S.C. 103(a) as being unpatentable over Oriti et al and Johansson et al (5,229,068) were appealed. Said grounds of rejection are being maintained and are herewith included by reference in their entirety. However, upon further review, it is concluded that, in addition to said grounds for rejection, additional grounds for rejection have to be provided in the form of the following double patenting rejections.

### ***Double Patenting***

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. ***Claims 24, 26 and 27*** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 21, 28 and 21,

respectively, of copending Application No. 10/748,175 in view of Orii et al (6,735,267 B2) (previously cited). Claim 21 of said copending Application encompasses, i.e., anticipates, all limitations of claim 24 of the instant application except the limitation on circular shape of the claimed water passages (see line 4 in claim 24, and line 4 in claim 21 of said copending Application). However, it would have been obvious to include said limitation so as to claim circular shaped water passages in view of Orii et al, who, in a patent on a nuclear fuel assembly fuel bundle with water passages 3 and full-length fuel rods 2A and part-length fuel rods 2B positioned both adjacent a pair of centrally located water passages as well as positioned centrally in the outermost columns and rows of the fuel bundle (Figure 15) so as to improve the void coefficient (col. 1, l. 5+ and col. 3, l. 50+), hence art analogous to said copending Application (see par. [0010]), teach said water passages 3 to be circular (Fig. 15 and col. 6, l. 10). Orii et al also teach that the specific shape is not crucial for obtaining the desired effect described above, in addition to their teaching of a circular shape as a possible embodiment (col. 9, l. 56+). In light of these teachings by Orii et al, the limitation "circular" is found in the art although not critical, hence merely a design choice. See MPEP 2144.04. On claim 26, the only limitation recited in addition to those recited by claim 28 of the copending Application is that the recited voids are filled with water. Said voids are in fact water traps as disclosed (see par. [0030] of said copending Application) and could have been claimed as such. Finally, the number 14 of the total part-length rods is equal to the specifically recited number of part-length fuel rods in claim 28 of said copending Application, namely: two subsets comprising three short-length fuel rods (i.e., 6 short-length fuel rods in the first

group) and four pairs of intermediate-length rods (i.e., 8 intermediate-length rods), totaling  $6+8 = 14$  part-length rods.

This is a provisional obviousness-type double patenting rejection.

3. **Claims 28** is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 30 of copending Application No. 10/748,175 in view of Orie et al (6,735,267 B2) (previously cited).

Claim 30 of said copending Application encompasses, i.e., anticipates, all limitations of claim 28 of the instant application except the limitation on circular shape of the claimed water passages (see line 2 in claim 29 of said copending Application on which said claim 30 depends, and line 2 in claim 28). However, it would have been obvious to include said limitation so as to claim circular shaped water passages in view of Orie et al, who, in a patent on a nuclear fuel assembly fuel bundle with water passages 3 and full-length fuel rods 2A and part-length fuel rods 2B positioned both adjacent a pair of centrally located water passages as well as positioned centrally in the outermost columns and rows of the fuel bundle (Figure 15) so as to improve the void coefficient (col. 1, l. 5+ and col. 3, l. 50+), hence art analogous to said copending Application (see par. [0010]), teach said water passages 3 to be circular (Fig. 15 and col. 6, l. 10). Orie et al also teach that the specific shape is not crucial for obtaining the desired effect described above, in addition to their teaching of a circular shape as a possible embodiment (col. 9, l. 56+). In light of these teachings by Orie et al, the

limitation "circular" is found in the art although not critical, hence merely a design choice. See MPEP 2144.04.

This is a provisional obviousness-type double patenting rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Johannes P. Mondt whose telephone number is 571-272-1919. The examiner can normally be reached on 8:00 - 18:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack W. Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JPM  
January 4, 2008

Primary Examiner:

  
Johannes Mondt (Art Unit 3663).